REMARKS

Claims 1-19 are pending in the application. Claims 1-19 stand rejected. Claims 17-19 have been cancelled. Applicant reserves the right to revive these claims in continuing examination or in a continuing application.

Claim Objections

The Examiner has rejected claims 5 and 6 "under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention." Office Action, page 2. Specifically, the Examiner requested antecedent basis for the acronym DDGS.

Independent claims 1, 7, and 11 have been amended to include the acronym at the first introduction of the phrase, and the dependent claims have been amended to use the acronym per the Examiner's direction. Applicant requests withdrawal of the objection.

Claim Rejections – 35 USC § 103

The Examiner has rejected claims 1-19 "under 35 U.S.C. 103(a) as being unpatentable over the combined teachings of Pittman et al (US 2,261,923), Ensley (US 3,150,979), Grybeck et al (US 3,712,802), and Ahlnas et al (US 5,482,529)." Office Action, page 2. The Applicant respectfully traverses this rejection.

Applicant asserts that the cited references do not disclose the present invention even when combined, provide no suggestion to combine the various references, and teach away from combination.

Pittman

Pittman discloses an invention "in which the problem of separating and recovering dissolved and finely suspended protein ingredients from a liquid waste is involved". Pittman, Col. 1, lns. 19-22. The process described appears primarily to be one of substituting bentonite for other prior chemicals used to precipitate solids from the liquid suspension so that more **protein** can be recovered. For example:

> The partial recovery of grain values remaining in distillery slop following the distillation process has long been practiced, and many processes have been proposed looking toward an increased recovery of grain values from such slop. However, so far as is known, none of these proposals has successfully been employed in recovering substantially all of the **protein material** which appears to be held in the waste liquid both in the form of a colloidal suspension and in a true solution with the liquid of the waste. In general, most of the known processes depend upon the addition of **auxiliary chemical agents** having as an object the recovery of a soluble protein, directly or indirectly, as a result of a chemical reaction of those agents with the ingredients found in the complex structure of the slop.
> Pittman, Col. 2, lns. 3-19, emphasis added.

Further, *Pittman* teaches away from the use of evaporation to create dried distiller's grain and soluble from the slop. "It is possible by means of evaporation method to recover all of the grain elements from the slop, **but this has not proved to be entirely satisfactory, due to the cost of the special equipment required".** Pittman, Col. 2, lns. 34-37. See also "the expensive evaporation process". Pittman, Col. 2, lns. 51-52. Yet the specification of the current application discloses what dried distiller's grain and soluble is, at paragraph 26:

> The spent mash has grain and solubles in liquid suspension. The solubles in the liquid may be drained off; when none of this soluble material is returned to the grain is typically called dried distiller's grain. **When the solubles are either left with the grain to dry**, or returned to the grain after the liquid suspension has been removed from the dried distiller's grain, this is typically called dried distiller's grain and solubles (DDGS).
> (emphasis added)

Pittman is seen, above, to be recovering protein, and not the various other constituents of the solubles. Thus, *Pittman* does not disclose and teaches away from "dried distiller's grain and soluble", as recited in independent claims 1, 7, and 11.

In addition, the use of bentonite clay as cited by *Pittman*, if ever used in plant production, can, and most probably will, swell if ever used in soil, both sealing off the soil causing water runoff and interfering with gas exchange. Thus, although *Pittman* does use the word "fertilizer" a few times in the disclosure, there is no description of any kind of a fertilizing process, and an "important feature of the invention is the use of bentonite materials" (Pittman, Col. 3, lns. 13-14), which appears problematic for use in plant production in the process of the present invention for the reasons stated above.

Ensley

Although *Ensley* does mention distiller's grain and solubles, it does so solely in the context of animal feed. Further, that mention, cited by the Examiner, mentions it as a substitute for other previously mentioned compounds. *Ensley* simply does not disclose the use of dried distiller's grain and soluble (DDGS) as fertilizer or herbicide. The combination of this reference with *Pittman*, as suggested by the Examiner, would not lead to the claims of the present invention as *Pittman* clearly teaches away from DDGS, as noted above, in addition to its other deficiencies.

Grybek

Grybek discusses a "growth promoting composition" (Abstract) which, "unlike common fertilizing compositions which supply nutrients, acto to stimulate or intitiate the metabolic reactions of the plant." (Col. 1, lns. 52-55). *Grybek* does mention distillery residues (although not DDGS as recited in the claims of the present invention) but teaches that it is necessary to convert the proteins of the waste products mentioned into alpha-keto acids for this process to be effective. See generally Col. 2, lns. 10-20. The results of the processes in *Grybek* seem to be highly soluble chemicals for use as fertilizer which are immediately available to plants and are also immediately washed from the root zone. The processes according to some embodiments of the present invention are not highly soluble and utilize the

biological action of organisms to stimulate the growth of bacteria, fungi, and microorganisms which more slowly release nutrients in soluble form. See Specification, para. 26, for example.

Ahlnas

Ahlnas appears geared toward a fish emulsion type material. Although distiller's grain is mentioned in one instance, DDGS is not. Applicant cannot find enough similarity to the present invention to argue further other than to say that this reference does not disclose the elements of the claims of the present invention, and that no combination of this reference with the other cited references would either.

Unexpected Results

The Examiner has stated that "(n)o unobvious results are noted". Office Action, page 4. Applicant strenuously objects to this remark.

The Examiner has cited references involving the use of various materials in animal feed, with some mention of fertilizer applications as well (as discussed above). "The use of DDGS in the production of a crop serves **both** an **herbicide** function and a **fertilizer** function." Specification, paragraph 27, emphasis added. The specification goes on to describe a weed control trial (paragraphs 47-56) using a method according to some embodiments of the present invention. A summary of the results is stated. "In the DDGS flat, weed types 2, 5, and 10 were all completely suppressed and did not germinate. All other weed species were severely stunted, or delayed, compared to the control flat and exhibited a low percentage of germination." Specification, paragraph 56. Applicant asserts that a demonstration of unobvious and unexpected results has clearly been made, including but not limited to the use of a DDGS regime as a biologically based herbicide.

Summary

Applicant has amended claims and has responded to all of the objections and rejections. Applicant contends that all claims are in a condition for allowance and

respectfully requests allowance of all claims. Should the Examiner have any questions regarding this response, the Examiner is invited to contact the undersigned at (831) 462-8270.

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